Axisymmetric Elastic/Plastic Problem for Plate, Weakened by a Circular cut, by K. P. Shevchenko

RUSSIAN, per, Prikladnaya Matematika i Mekhanika, Vol 15, 1951, pp 519-520.

*ABC LB/G/2432

NLL Ref: 5828.1F (12225)

Sci/Materials
Nov 66

Stresses in a Plane, Ponderable Medium With Two Uniform, Symmetrically Placed Arbitrary Circular Holes, by D. I. Sherman, 13 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XV, No 6, 1951, pp 751-761.

QA 76, 765

Sci Mu Lib Tr 55/1325

Scientific - Physics

Sep 55 CTS

Some General Methods of Solving Problems in
the Theory of Plasticity, by I. A. Birger,
8 p.

RUSSIAN, per, Prikland Mat i Mekh, 1951, Vol XV,
pp 765-770.

AEB-77135R

Sol
Apr 60
Vol XIX, No 2

113577

Prikladnaya Matematika i Mekhanika /Applied Mathematics and Mechanics/ Volume XV, No 6 (Nov/Dec 1951), pages 771-2. FDD copy.

"Approximate Integration of Differential Equations with Lagging Argument"

author: L. E. El'sgol'ts (Moscow)

11640 ST-256 SR 26 Mar 52

Barenblatt, G.I.
SOME IRREGULAR MOTIONS OF A LIQUID AND A GAS IN A POROUS MEDIUM. 17 p. 4 refs. MTWL: 627.
Order from OTS or ETC $1.85 61-17229

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1952, v. 16, no. 1, p. 67-78.

DESCRIPTORS: *Porous materials, Fluid flow, Gas flow, *Aerodynamics, *Hydrodynamics, Theory.

61-17229

I. Barenblatt, G.I.
II. MTWL-627
III. Stichting Moeilijk Toegankelijke Wetenschappelijke Literatuur

Office of Technical Services

The Impact of a Lamina With Discontinuous Streamline Slope, by M. I. Gurevich, 8 p.

[illegible], Prikl Mat i Mekh, 1959, [illegible]
No 4, p 146.

DIA 59-15414

Cal
Jan 60
Vol 2, No 5

Gurevich, M. I.
[REMARKS] FLOW PAST A PLATE SUBJECTED TO
[illegible] [1951] 6p. 4 refs.
Order Loan RIS S-2104 RIS S-2104

Trans. of Prikladnaya Matematika i Mekhanika
(USSR) 1952, v. 16, no. 1, p. 116-118.

(Mechanics--Hydrodynamics, TT. v. 5, no. 11)

61-22199

I. [illegible]--Physical factor
2. [illegible]--Hydrodynamic characteristics
I. Gurevich, M. I.
II. RIS S-2104
III. Research Information Service, New York

Office of Technical Services

CAVITATION PROBLEMS: TRANSLATION OF THREE RUSSIAN PAPERS, tr. by Gerta Cohen and Hirsh Cohen. 3 Apr 59 [28]p. 15 refs. RPI Math Trans. no. 3.
Order from OTS or SLA $2.60 59-14913

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1952, v. 16, no. 1, p. [116-118]; #1958, v. 22, no. 4, p. 565-568; Akademiya Nauk SSSR. Doklady, 1956, v. 111, no. 2, p. 312-[315].
Each article is available separately elsewhere.

DESCRIPTORS: *Cavitation, Fluid flow, Sheets, Hydrodynamics, Impact shock, Subsonic flow, Mathematical analysis.

Contents:
The impact on a lamina with discontinuous streamline flow, by M. I. Gurevich (Mechanics--Hydrodynamics, TT, v. 7, no. 12)(over)

59-14913

I. RPI Math Trans-3
II. Rensselaer Polytechnic Inst., Troy, N. Y.

AEC - SCL-T 652

Office of Technical Services

Stresses and Strains in Cyclical Loading, by Yu. N. Rabotnov, 5 pp. UNCLASSIFIED

RUSSIAN, per, Prik Matemat i Mek, Vol XVI, No 1, 1952, pp 121-122.

Sci Mu 1.1h No 54/2231

Scientific - Mathematics
Engineering

18,613

The Problem of a Submerged Jet, by Yu. B. Rumer.

Full translation.

RUSSIAN, bimo per, Prik Matemat i Mekh, Vol XVI, USSR, 1952, pp 255-256.

AEC Tr 1632

T7383

Scientific -- Mathematics

Aug 53 CFS

9824

On the Applicability of the Method of Variables to Problems of Small Plastic-Elastic Deformations, by V. N. Panferov

RUSSIAN, Prik Mat i Mek, 1952, Vol XVI, No 3, pp 319-322.

D.S.I.R. Tr No CTS 2

Scientific - Mathematics

List No 49, Apr 1953

1073

Theoretical Approach to the Determination of Added Mass of a Rectangular Plate, by K. K. Fyedyayevskiy

RUSSIAN, per, Prik Mat i Mekh, Vol XVI, 1952, pp 352-352.

A.R.E. Fort Halstead 7 OT/191

5

Scientific - Mathematics

CTS/WEK

8231

APPROVED FOR RELEASE: 2005/08/30 CIA-RDP91-00772R000301800013-2

Malkin, I. G.
ON A PROBLEM IN THE STABILITY THEORY OF AUTOMATIC REGULATING SYSTEMS. [1961] [9]p. 3 refs.
Order from OTS or SLA $1.10 62-10146

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1952, v. 16, p. 365-368.
Another trans. is available from OTS $1.10 as AD-264 967, July 61, 9p.

DESCRIPTORS: *Control systems, *Linear systems, Functions, Theory, Differential equations, Integral equations, Perturbation theory.

This paper is concerned with the problem proposed by Aizerman in regard to the stability of a set of non-linear differential equations. Conditions for stability are hypothesized by making a linear analogy to the original non-linear system. The validity of these
(Mathematics, TT, v. 7, no. 9) (over)

62-10146

1. Title: Lyapunov method
I. Malkin, I. G.

Office of Technical Services

Analytical Theory of Non-Linear Systems of Ordinary Differential Equations, by N. P. Erugin

RUSSIAN, per, Prik Mat i Mekh, Vol XVI, No 4, 1952, pp 465-486.

Co-op Tr Sch 36
Sanitized 55/2647

Scientific - Mathematics
CTS/DEX

Price 8.16s.(1.2s.)

5558

Malkin, I. G.
THE STABILITY OF AUTOMATIC REGULATION SYSTEMS (Ustoichivost' Sistem Avtomaticheskogo Regulirovaniya). Nov 60 [8]p. 1 ref. RTS 1698. Order from LC or SLA mi$1.80, ph$1.80 61-15210

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1952, v. 16, no. 4, p. 495-499.

The stability problem of the system of type $(dx_s/dt) = p_{s1}x_1 + \ldots + p_{sn}x_n + F_s(x_1, \ldots, x_n)$, where $s = 1, 2, \ldots, n$, is considered. For given conditions of $F_s(x_1, \ldots, x_n)$ these functions satisfy, in the region $|x_s| \leq A$, the inequalities $|F_s(x_1, \ldots, x_n)| < Q(|x_1| + \ldots + |x_n|)$ where Q is a positive constant. The maximum values of this constant are found for which the equilibrium is asymptotically stable in the Lyapunov sense for any F_s function that satisfies the above conditions, and the permissible range of initial deviations are determined. A theorem in which these quantities are assessed is given; it is expressed directly in
(over)

(Mathematics, TT, v. 5, no. 8)

61-15210

1. Control systems--Stability
2. Control systems--Mathematical analysis
I. Malkin, I. G.
II. RTS-1698
III. Department of Scientific and Industrial Research (Gt. Brit.)

151628

Office of Technical Services

The Calculation of Symmetrically Loaded Toroidal Shells With the Aid of Trigonometric Series, 8 pp., by S. A. Tumarkyn

RUSSIAN, per, Prik Mat i Mekh, Vol XVI, No 5, 1952, pp 569-574.

Scientific - Mathematics
CTS/DEX

5955

Calculation of Vortex-Free Flow Over Profile Lattices and the Construction of Lattices on the Basis of a Given Velocity Distribution at the Profiles, by L. F. Dorfman, 18 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XVI, 1952, pp 599-612. 9610852

A.C.S.I.L. Tr 1329

Sci - Math & Data Process
Sep 63

A Study of Theories of Fracture Under Combined Stresses, by I. Cornet, R. C. Grassi; Physical Significance of Invariants of Stress Used in the Theory of Plasticity, by V. V. Novozhilov, 45 pp.

RUSSIAN, per. Prik Matemat i Mekh, Vol XVI, 1952, pp 617-639.

AEC Tr-IP-6712

Sci - Phys

Sep 54

FSTC

Stability of the Solution of a Certain Non-linear Third Order Equation, by E. A. Barbashin.

RUSSIAN, bimo per. Prik Matemat i Mekh, Vol XVI, No 5, 1952, pp 629-632.

Co-op Tr Sch 57

USSR
Scientific - Mathematics

Feb 54 CTS

£1.12s.(4s.0d.)

9602

Beilin, E. A. and Dzhanelidze, G. Yu.
A SURVEY OF WRITINGS ON THE DYNAMIC STABILITY OF ELASTIC BODIES (Obzor Rabot po Dinamicheskoi Ustoichivosti Uprugikh Sistem). [1963] 44p 41refs
Order from OTS, SLA, or ETC $4.60 TT-64-14269

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1952, v. 16 [no. 5] p. 635-648. (Abstract available)
Another trans. is available from OTS $3.60 as AD-269 945, 15 Nov 61, 32p.

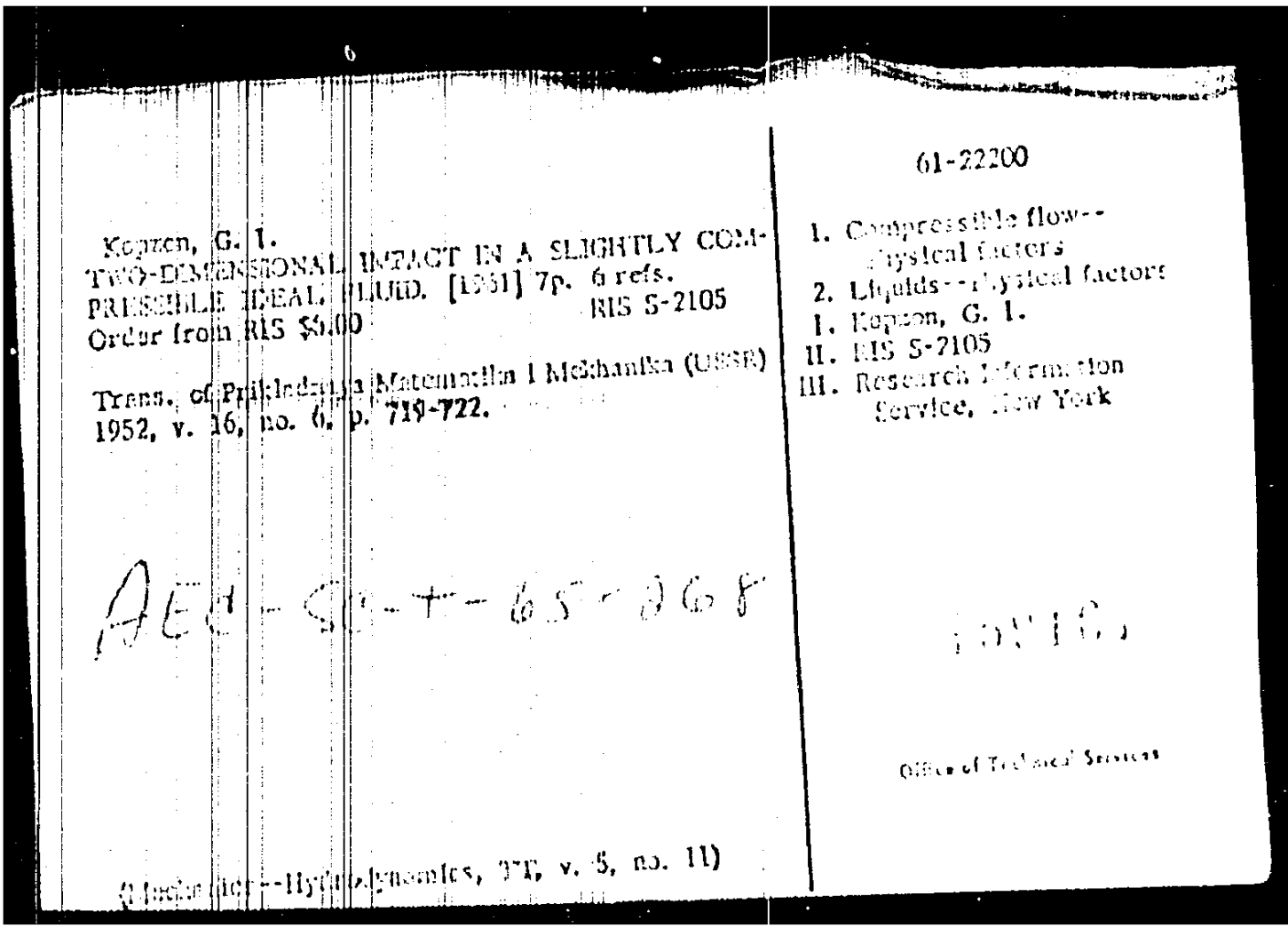
DESCRIPTORS: *Elasticity, *Solids, Dynamics, Stability, Load distribution, Motion, Mathematical analysis, Partial differential equations, Theory, Reviews, Mechanics.

A survey of work published in the USSR on the problem of dynamic stability of elastic systems during the period 1924-1951 is presented. The paper is divided into three (Mechanics, TT, v. 11, no. 7) (over)

TT-64-14269

I. Beilin, E. A.
II. Dzhanelidze, G. Yu.

Office of Technical Services



Kopzon, G. I.
TWO-DIMENSIONAL IMPACT IN A SLIGHTLY COMPRESSIBLE IDEAL FLUID. [1951] 7p. 6 refs.
Order from RIS $5.00 RIS S-2105

Trans. of Prikladnaya Matematika i Mekhanika (USSR)
1952, v. 16, no. 6, p. 719-722.

AEC-tr-6508

61-22200

1. Compressible flow--Mathematical factors
2. Liquids--Mathematical factors
I. Kopzon, G. I.
II. RIS S-7105
III. Research Information Service, New York

Office of Technical Services

(Applied Mechanics--Hydrodynamics, TT, v. 5, no. 11)

The Propagation of a Whirling Jet in an Infinite Space Filled With the Same Fluid, by L. G. Loytsyanskiy,

RUSSIAN, per, Prik Mat Mekh, Vol XVII, No 1, 1953, pp 3-16.

ATS-22L29R

TPA3/TIB Tr No 436

8

21,831

Scientific - Physics Mar 55 CTS

Canonical Transformations of Equations of the Theory of Automatic Controls, by V. A. Troitskii, 14 pp.
RUSSIAN, per, Prikladnaya Mate i Mekhanika, Vol 17, 1953, pp 49-60.
ARM/ISIC-Tr-961-69

Sci/Math
Jul 70

A Method of Solution of a General Biharmonic Problem for a Rectangular Region, With Given Values of the Function and Its Normal Derivative on the Contour, by G. A. Grinberg, et al.

RUSSIAN, per, Prik Matemat i Mekh, Vol XVII, 1953, pp 73-86.

Sci - Phys

Oct 60

Pyatnitskii, S. S.
THE WINTER OAK AND THE SUMMER OAK (Dub-zimnyak i Dub-letnyak). [Nov 61] 11p. PL-480 Agr.
Order from OTS $0.50 60-21909

Trans. of Priroda (USSR) 1953, v. 42, p. 97-102.

DESCRIPTORS: *Trees, *Forestry, *Plants, *Ecology, Earth, *Economics, Climatic factors

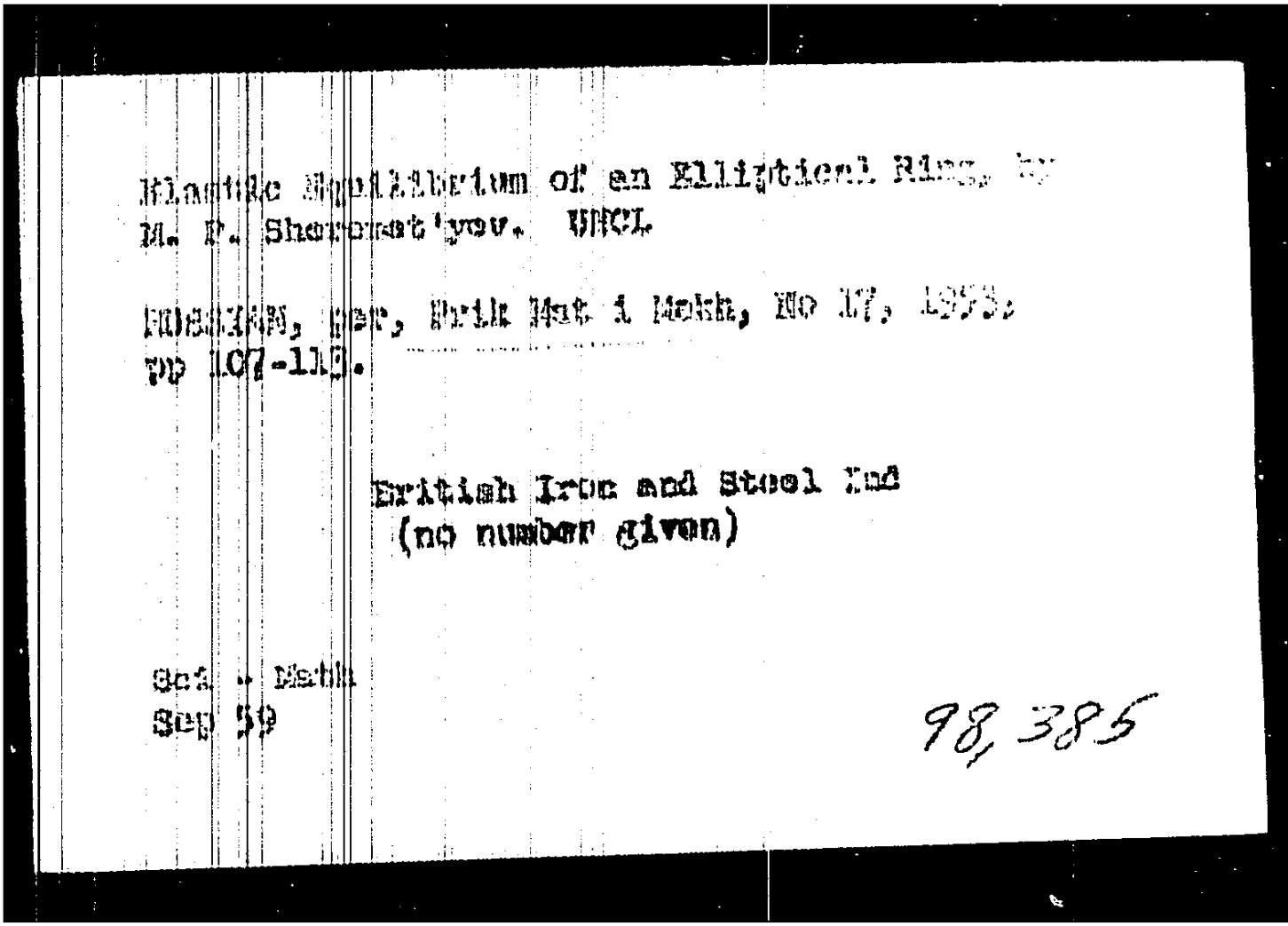
Discussions are presented on the distribution and characteristics of the two types, the origin of the two types, and the importance of both types in forestry.

(Biological Sciences--Botany, TT, v. 7, no. 2)

60-21909

I. Pyatnitskii, S. S.
II. PL-480 AGR (60-21909)
III. National Science Foundation, Washington, D. C.

Office of Technical Services



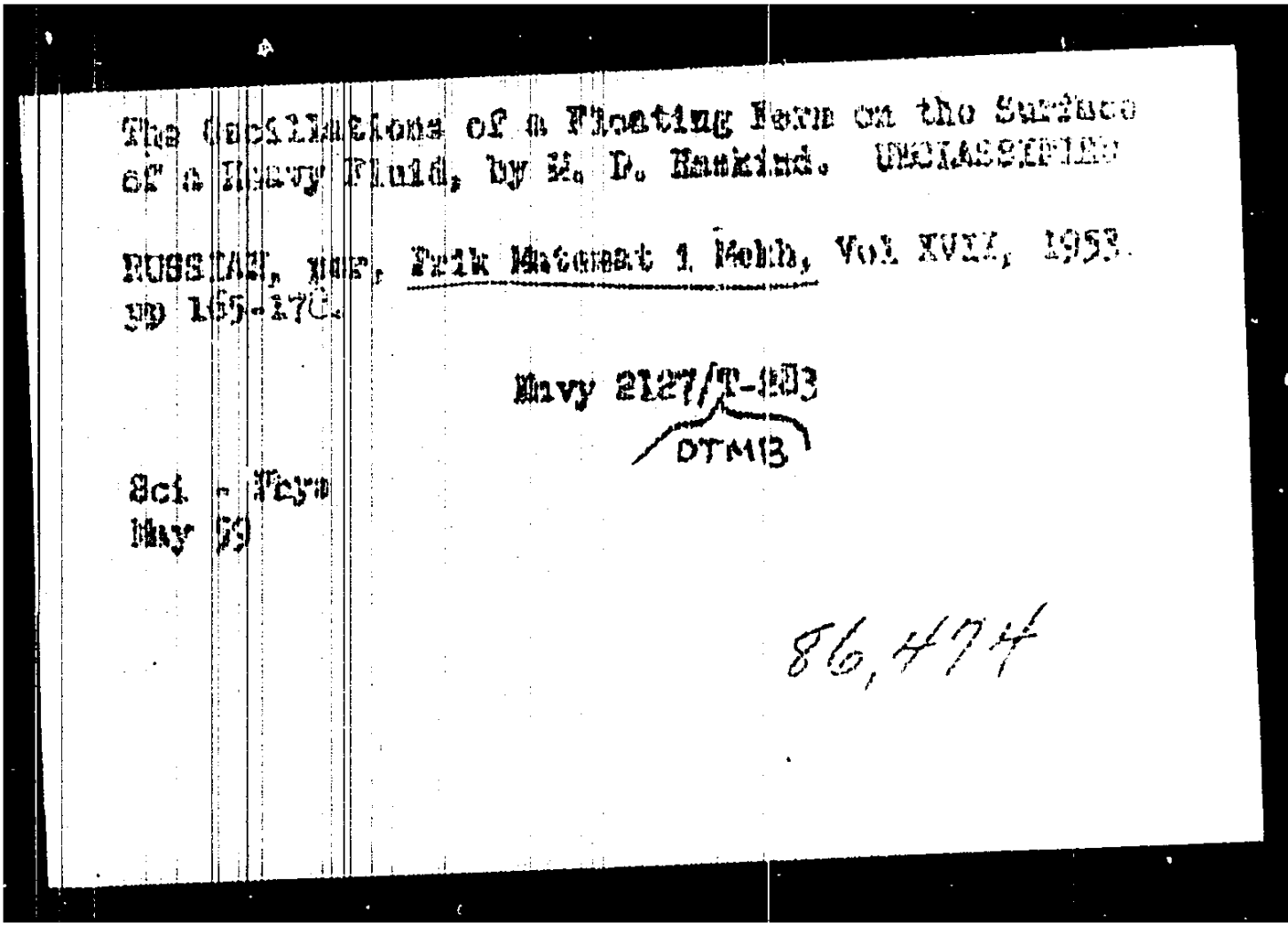
Plastic Equilibrium of an Elliptical Ring, by
M. F. Shermatayev. UNCL

PMM-Prik Mat i Mekh, No 17, 1953,
pp 107-110.

British Iron and Steel Ind
(no number given)

Sci - Mech
Sep 59

98,385



The Oscillations of a Floating Body on the Surface of a Heavy Fluid, by W. D. Rankine. UNCLASSIFIED

RUSSIAN, NRF, Prik Matemat i Mekh, Vol XVII, 1953. pp 165-170.

Navy 2127/T-103
DTMB

Sci - Tech
May 59

86,474

Estimation of Errors in the Approximate Solution of Linear Problems, by M. G. Slobodyanskiy, 23 pp.

RUSSIAN, bimo per, Priklad Matemat i Mekh, Vol XVII, No 2, Mar/Apr 1953, pp 229-244.

NACA L-37596

Scientific - Mathematics
CIS 73/Oct 1955

27,168

Integral Equations of Constrained Torsion and Stability of Thin-walled Rods, by V. V. Bolotin, 7 pp.

RUSSIAN, blue per, Prik Matemat i Mekh, Vol XVII, No 2, Mar-Apr 1953, p 245-248.

NACA-N-37217

USSR
Sci - Engineering

25,810

Barenblatt, G. F.
ON THE MOTION OF SUSPENCED PARTICLES IN A TURBULENT STREAM (O Dvishenu Vsveshennykh Chastits v Turbulentnom Potoke). [1961] 13p. 14 refs. [DSIR LLU] M. 2758.
Order from OTS or SLA $1.60 61-23311

Unedited trans. of Prikladnaya Matematika i Makhanika (USSR) 1953, v. 17, p. 261-274.

DESCRIPTORS: *Liquid jets, Turbulence *Particles, Motion

From the general equation, an equation for the horizontal motion of a non-homogeneous liquid is obtained, where the liquid is homogeneous in the horizontal (direction) and stationary. (Author) (See also 60-23010)

(Physics, TT, v. 6, no. 9)

61-23311

I. Barenblatt, G. F.
II. DSIR LLU M. 2758

185532

Office of Technical Services

Shimanov, S. N.
ON THE STABILITY OF THE SOLUTION OF A NONLINEAR EQUATION OF THE THIRD ORDER.
[1961] [10]p. 4 refs.
Order from OTS or SLA $1.10 62-10181

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1953, v. 17, no. 3, p. 369-372.
Another trans. is available from OTS $1.10 as AD-264 174, STL-TR-61-5110-2, Mar 61, 10p.

DESCRIPTORS: *Satellite vehicle trajectories, *Nonlinear differential equations, Functions, Statistical tests, *Perturbation theory, Nonlinear systems.

The stability is investigated of the null solution of a system characterized by the third-order nonlinear differential equation $\dddot{x} + f(x, \dot{x})\ddot{x} + k\dot{x} + cx = 0$, (1) which is equivalent to $\dot{x} = y$, $\dot{y} = z$, and $\dot{z} = -f(x, y)z$ (Mathematics, IT, v. 8, no. 9) (over)

62-10181

I. Shimanov, S. N.
II. STL-TR-61-5110-2
III. Periodical:
Prikladnaya Matematika i Mekhanika (USSR) 1953, v. 17

Office of Technical Services

Numerical Solution of a System of Differential Equations Application of the Method to the Calculation of a Rotation Shell, by M. Sh. Mikeladze. 9 pp.

RUSSIAN, per. Prikladnaya Matematika i Mekhanika, Vol 17, No 5, 1953, pp 582-586. 9700439

FTD-TT-65-1439

Sci/Math
Jun 66

302,534

A. M. Lyapunov's Method and Problems in Stability in Large, by N. P. Yerugin, 14 pp.
Russian, Per. Prikład Mato i Mekh, Vol XVII, No 4, 1953, pp 389-400. 9697594
DDC [illegible]-434
[illegible]

Sci - Phys
Aug 66

287,269

Stability of Control Systems with two Active Elements, by A. M. Letov.
RUSSIAN, per, Prikladnaya Matematika i Mekh, Vol 17, No 4, 1953, pp 401-410.
NAVY/APL/JHU-T-2570

Nov 71

On the Question of the Calculation of the Motion of a Gas in a Local Shock-free Supersonic Zone, by L. B. Gorushchenko Goroshchenko, 5 pp. UNCLASSIFIED

[illegible]STAN, per, Prik Mat i Mek, Vol XVII, 1953, pp. 432-430.

Sci Mu Lib 54/1629 1692

Scientific - Physics, Mathematics

17,729

On Propagation of Instantaneous Excitations in a Medium With a Nonlinear Dependence of Tensions on Deformations, by G. I. Barenblatt, 13 pp.

RUSSIAN, pub, Prik Mate i Mekh, Vol XVII, 1953, pp 455-460. 9216106

AEC-UCRL-Tr-989(L)

Sci - Nucl Fel
Jan 64

246, 460

Some Problems of the Laminar Filtration of a Fluid in Heterogeneous Twisted Layers of Variable Thickness, by O. V. Golubeva, 7 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XVII, 1953, pp 489-490.

Sci Tr Center
RT-1488

Scientific - Mathematics

CTS/DKX

18,749

On Free Thermal Convection in Vertical Cylinders of Arbitrary Section, by G. A. Bugnenko, 5 pp.

RUSSIAN, Zhur. P Prik Matemat i Mekh, Vol XVII, 1953, pp 495-500.

Sci Mus Lib No 54/1113

Scientific - Mathematics

Jun 54 CTS

15,107

On the Determination of the Equilibrium States of a
~~XXXXX~~ Circular Shell Under Axially-Symmetric Loading,
by N. A. Alumyae, 25 pp.

RUSSIAN, bimo per, Prik Matemat i Mekh, Vol XVII, No 5,
1953, pp 511-528.

36,090
Sci Tr Center RF-3647

Scientific - Physics

Jun 56/dex

Kamenkov, G. V. and Lebedev, A. A.
ON STABILITY OF MOTION IN A FINITE TIME INTERVAL. [AND] NOTES. [1963] [23]p. 6 refs.
Free copies available from Boeing Scientific Research Labs. Library as Boeing Trans. R16 and R17. When supply is exhausted, order from OTS or SLA $2.60 63-16987

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1953, v. 17, p. 529-540; 1954, v. 18, p. 512.

DESCRIPTORS: *Motion, *Stability, Time, *Differential equations, Perturbation theory, Numerical analysis, Integrals, Real variables.

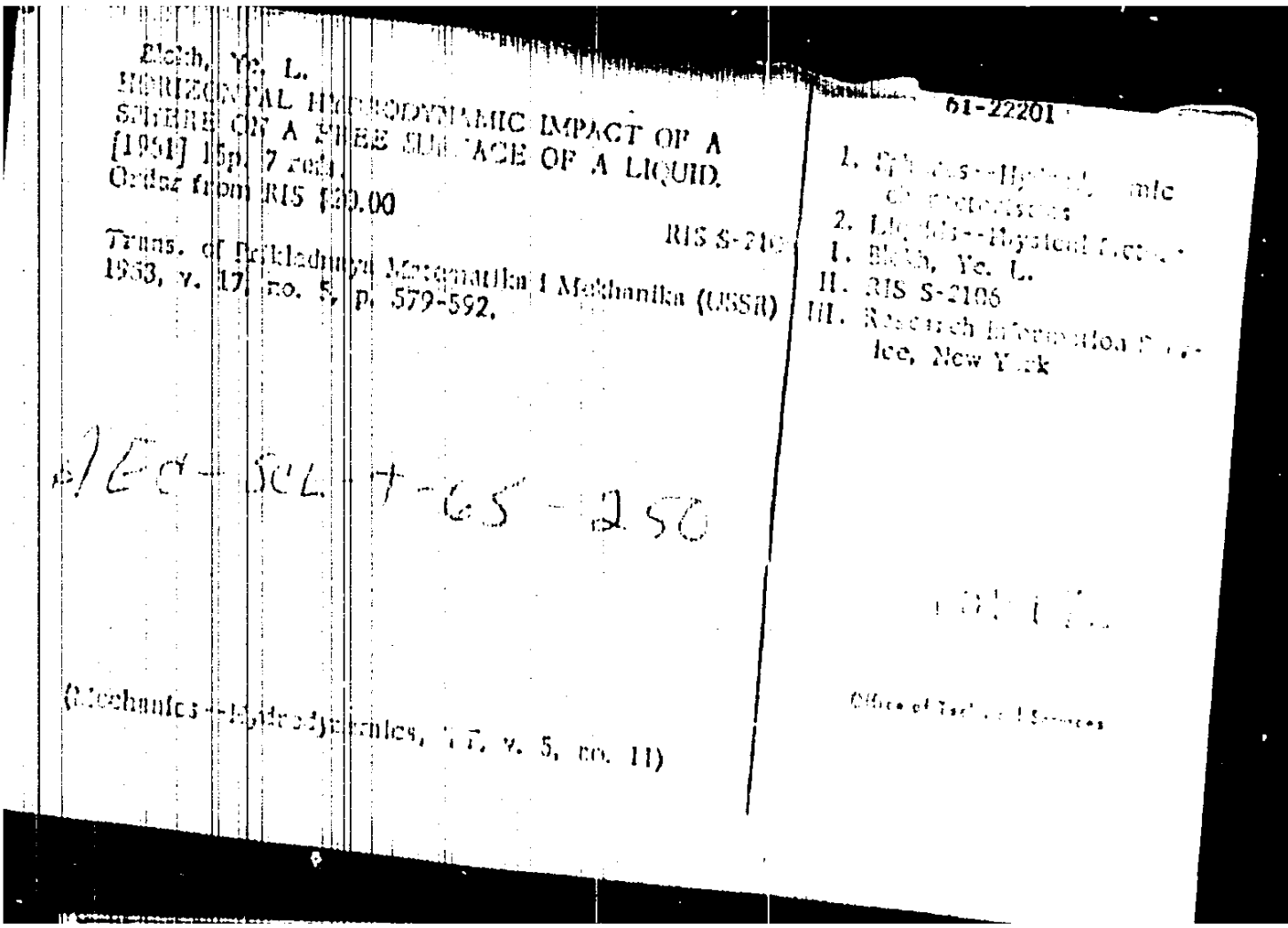
The solution of the problem of stability is reduced to an investigation of the integrals of the equations of perturbed motion of the type $\frac{dx_1}{dt} = X_1, \ldots, \frac{dx_n}{dt} = X_n$,

(Mechanics, IT, v. 10, no. 9) (over)

63-16987

I. Kamenkov, G. V.
II. Lebedev, A.A.
III. Boeing Trans-R(16-17)
IV. Boeing Scientific Research Labs., Seattle, Wash.

Office of Technical Services



Bleich, Ye. L.
HORIZONTAL HYDRODYNAMIC IMPACT OF A SPHERE ON A FREE SURFACE OF A LIQUID.
[1951] 15p. 7 refs.
Order from RIS $30.00

RIS S-2105

Trans. of Prikladnaya Matematika i Mekhanika (USSR)
1953, v. 17, no. 5, p. 579-592.

61-22201

1. Physics--Hydrodynamic
2. Liquids--Physical Prop
I. Bleich, Ye. L.
II. RIS S-2105
III. Research Information Service, New York

#1 EC - SCL - 7 - 65 - 250

(Mechanics--Hydrodynamics, T.T. v. 5, no. 11)

Office of Technical Services

Calculation of the Profile of a Retaining Wall Under Plane Creep Conditions, by A. G. Kostyan...
USSR.

RUSSIAN, per, Prik Mat Mekh, Vol XVIII, 1953, pp 605-618.

Sci - Math
Apr 59

The Behavior of Dynamic Systems and Systems of Automatic Control Having Several Control Organs Near the Boundary of a Region of Stability, by V. A. Troitskii, 14 pp.
RUSSIAN, per, Prik Mate i Mekh, Vol 17, 1953, pp 673-684.
ARM/RSIC-Tr-968-69

Sci/Math
Jul 70

Blokh, Ye. L.
HORIZONTAL IMPACT OF AN ELLIPSOID OF ROTATION ON AN IDEAL LIQUID HAVING A FREE SURFACE. [1961] 24p. 6 refs.
Order from RIS $25.00 RIS S-2107

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1953, v. 17, no. 6, p. 705-726.

AEC - SCL - T - 65 - 257

(Mechanics--Hydrodynamics, TT, v. 5, no. 11)

61-22202

1. Ellipsoids--Hydrodynamic characteristics
2. Liquids--Physical factors
I. Blokh, Ye. L.
II. RIS S-2107
III. Research Information Service, New York

Office of Technical Services

Convectional Diffusion in a Submerged Jet, by Y. B. Rumer, 6 pp.

RUSSIAN, per, Prikład Mat i Mekh, Vol XVII, No 6, Nov/Dec 1953, pp 743, 744.

SLA Tr R-119 (1119)

54,601

Sci - Mathematics

Oct 57

The Determination of Large Deflections of a Cylindrical Panel, Resting on Flexible Inextensible Ribs, Subjected to External Normal Loading, by Kh. M. Mushtari, I. V. Svirski, 12 pp.

RUSSIAN, bimo per, Prik Matemat i Mekh, Vol XVII, No 6, 1953, pp 755-760.

Sci Tr Center RT-3646

36/128

Scientific - Engineering

Jun 56/dex

On the Problem of a Streamlined Profile in a Near-Sonic Flow, by A. F. Kryuchin. RUSSIAN, per, Prikladnaya Matematika i Mekhanika, Vol XVIII, 1954.
OTS TT-64-71432

Jan 67

318,668

Feodos'ev, V. I.
ON THE STABILITY OF A SPHERICAL SHELL, SUBJECTED TO THE ACTION OF EXTERNAL HYDROSTATIC PRESSURE. [Neustanovivsheesya Dvizhenie Vyazkoi Zhidkosti Soversaemoe Vrashchayushchimsya Diskom] tr. by George Herrmann. Mar 56 [16]p. 7 refs. DTMB Trans-266.
Order from OTS or SLA $1.60 63-15671

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18 [no. 1] p. 35-42.
Another trans. is available from OTS or SLA $1.10 as 62-23112, MDP F-104 [1961] 10p.

DESCRIPTORS: Elastic shells, Structural shells, Spheres, Stability, Pressure, *Hydrostatic pressure.

(Mechanics, TT, v. 9, no. 10)

63-15671

I. Title: Spherical shells
I. Feodos'ev, V. I.
II. DTMB Trans-266
III. David Taylor Model Basin, Washington, D. C.

Office of Technical Services

Duvakin, A. N. and Letov, A. M.
ON THE STABILITY OF CONTROL SYSTEMS WITH TWO CONTROLLERS. [1961] [11]p. 4 refs.
Order from OTS or SLA $1.60 62-10185

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, p. 163-166.
Another trans. is available from OTS $1.60 as AD-264 153, STL-TR-61-5110-17, May 61, 12p.

DESCRIPTORS: *Control systems, Linear systems, *Differential equations, Perturbation theory, *Functions, Inequalities, Stability, Theory, Time, Motion.

An analysis is presented on the control system described by a differential equation. The problem is to determine the sufficient conditions for the asymptotic stability of the trivial solution of the control system for any finite initial perturbations. Details are given on the construction of the Lyapunov function. Results
(Mathematics, IT, v. 8, no. 10) (over)

62-10185

I. Title: Lyapunov functions
I. Duvakin, A. N.
II. Letov, A. M.

APPROVED FOR RELEASE: 2005/08/30 CIA-RDP91-00772R000301800013-2

Lebedev, A. A.
ON THE PROBLEM OF STABILITY OF MOTION IN A FINITE TIME INTERVAL. [1963] 32p 6refs
Free copies available from Boeing Scientific Research Labs. Library as Boeing Trans. R20. When supply is exhausted, order from OTS or SLA $3.60
63-20238

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, p. 75-94.

DESCRIPTORS: *Perturbation theory, *Stability, *Motion, Equations of motion, Differential equations.

The method given by G. V. Kamenko is utilized to define, with respect to equations of the first approximation, conditions of stability of transient motion for finite initial, and finite, constantly acting perturbations. In this connection a method is given for determining the time interval in which unperturbed motion is stable. (Author)

63-20238

I. Lebedev, A. A.
II. Boeing Trans-R20
III. Boeing Scientific Research Labs., Seattle, Wash.

(Mechanics, TT v. 10, no. 12)

Office of Technical Services

Concerning the Invertibility of the Lyapunov's Theorem of Asymptotic Stability, by I. G. Malkin, 13 p.
RUSSIAN, per, Prikladnaya Matematika i Mekhanika, Vol XVIII, 1954, pp 129-138. 0700469
RSIC-526

Sci-Math
Jul 66

304,521

On the Analysis of Shells Subjected to Concentrated Loads, by A. L. Gol'denveyzer, 13 pp.

RUSSIAN, bimo per, Prik Matemat i Mekh, Vol XVIII, No 2, 1954, pp 181-186.

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Scientific - Physics

Jun 56/dex

Steady Motion of a Fluid Heated From Below, by V. S. Sorokin.

RUSSIAN, per, Prik Mat i Mekh, Vol XVIII, 1954, pp 197-204.

Sci Mus Lib Tr 57/0048

Sci - Physics
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Application of the Galyerkin Method to the Problem of the Stability of Unevenly Heated Liquids, by E. M. Zhukhovitskii. 15 pp.
RUSSIAN. per. Prikl Mat i Mekh, Vol 18, No 2, 1954, pp 205-211.
P91104868
AEC-tr-74

Sci-Phys
Mar 58

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On Waves of Loading and Unloading Arising From the Motion of an Elastic or Plastic Flexible Fibre, by N. Cristescu, 18 pp.

RUSSIAN, per, Prik Matemat i Mekhanika, Vol XVIII, May/Jun 1954, pp 257-264. CIA V 6922

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Sci - Physics

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Bugaenko, G. A.
ON FREE CONVECTION IN AN INCLINED CYLINDER (O Svobodnoi Konvektsii v Naklonnom Tsilindre). July 61 [5]p. 2 refs. RTS 1884.
Order from OTS or SLA $1.10 61-27041

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, no. 2, p. 212-214.

DESCRIPTORS: *Conical bodies, Continuous media, *Convection, Mathematical analysis, Heat transfer.

(Physics--Thermodynamics, TT, v. 7, no. 2)

61-27041

I. Bugaenko, G. A.
II. RTS-1884
III. Department of Scientific and Industrial Research (Gt. Brit.)

Office of Technical Services

On the Question of Constructing Approximate Theories of Computation of Shallow Cylindrical Shells, by S. A. Ambartsumian, 11 pp.
RUSSIAN, per, Prikl Mate i Mekh, Vol XIX, 1954, pp 303-312.
CIA/FDD X-5437

TT-64-18556

Sci - Phys
Sept 64
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Barbashin, E. A. and Krasovskii, N. N.
ON THE EXISTENCE OF LYAPUNOV FUNCTIONS IN THE CASE OF ASYMPTOTIC STABILITY IN THE LARGE. [1961] [13]p. 5 refs.
Order from OTS or SLA $1.60 62-10184

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, p. 345-350.
Another trans. is available from OTS $1.60 as AD-AD-264 150, STL-TR-61-5110-20, May 61, 12p.

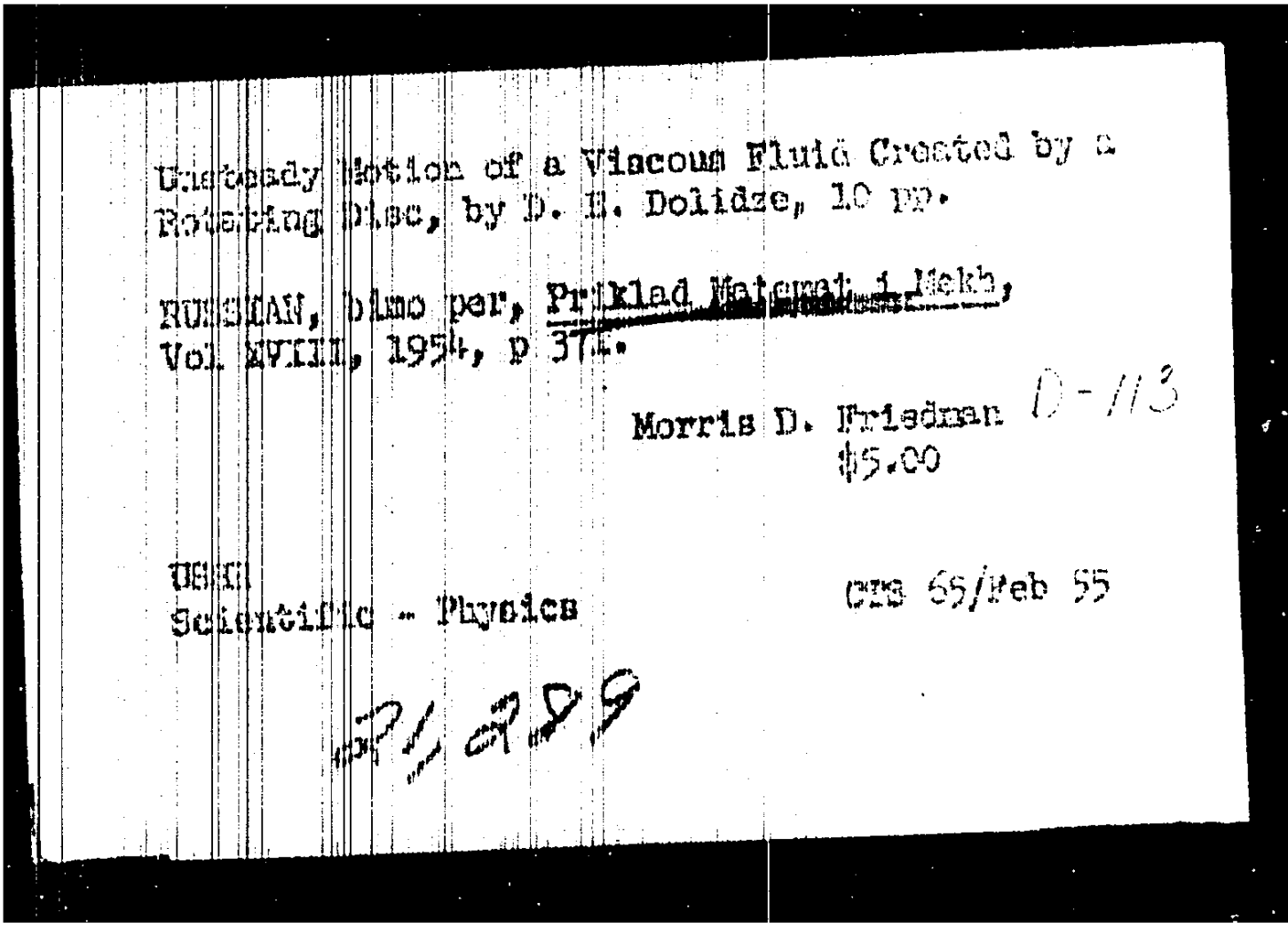
DESCRIPTORS: Satellite vehicle trajectories, *Flight paths, *Spheres, *Stability, Motion, Functions, Perturbation theory, Differential equations, Partial differential equations

Definitions on stability are given among which is included a detailed definition of stability in the large of two systems with time delay. Two theorems are stated with detailed proofs for solution of these systems. (Mathematics, TT, v. 8, no. 9) (over)

62-10184

1. Title: Lyapunov functions
I. Barbashin, E. A.
II. Krasovskii, N. N.

Office of Technical Services



Unsteady Motion of a Viscous Fluid Created by a Rotating Disc, by D. E. Dolidze, 10 pp.

RUSSIAN, Dokl per, Priklad Matemat i Mekh, Vol XVIII, 1954, p 371.

Morris D. Friedman D-113
$5.00

UDC
Scientific - Physics

CRS 65/Feb 55

Bulakh, B. M.
ON THE THEORY OF CONICAL FLOWS. [1963] 5p.
1 ref.
Free copies available from Boeing Scientific Research Labs. Library as Boeing Trans. R74. When supply is exhausted, order from OTS or SLA $1.10. 63-18316

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, no. 4, p. 452-453.

DESCRIPTORS: Gas flow, Velocity, Numerical analysis, *Conical bodies, *Supersonic flow, *Axially symmetric flow.

(Mechanics--Aerodynamics, TT, v. 10, no. 8)

63-18316

I. Bulakh, B. M.
II. Boeing Trans-R74
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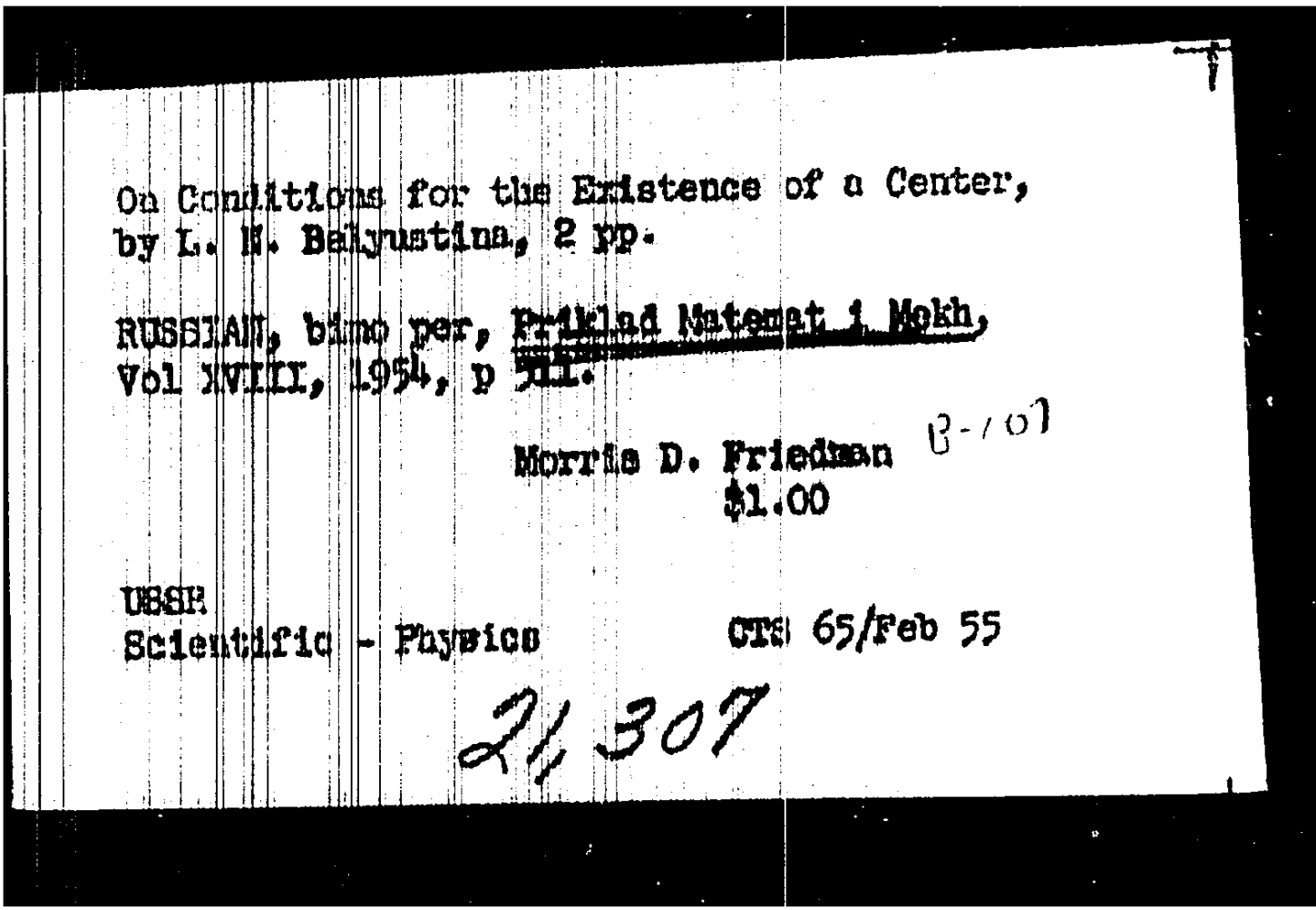
Office of Technical Services



On Conditions for the Existence of a Center,
by L. M. Baljustina, 2 pp.

RUSSIAN, bimo per, Prikład Matemat i Mekh,
Vol XVIII, 1954, p 341.

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$1.00

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Scientific - Physics

CTS 65/Feb 55

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Problem of Near Sonic Flow Past a Profile, by A. F. Kriuchin, 17 pp, (AF 653055).

RUSSIAN, per, Prik Matemat i Mekh, Vol XVIII, No 5, Moscow, 1954, pp 547-560.

G-2, USUSA G-5036

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Scientific - Aeronautics Aug 55

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Ebb, Ye. L.

ON THE INFLUENCE OF AN ELLIPSOID OF REVOLUTION FLOATING ON THE SURFACE OF A HEAVY LIQUID. [1961] 19p. 2 refs.

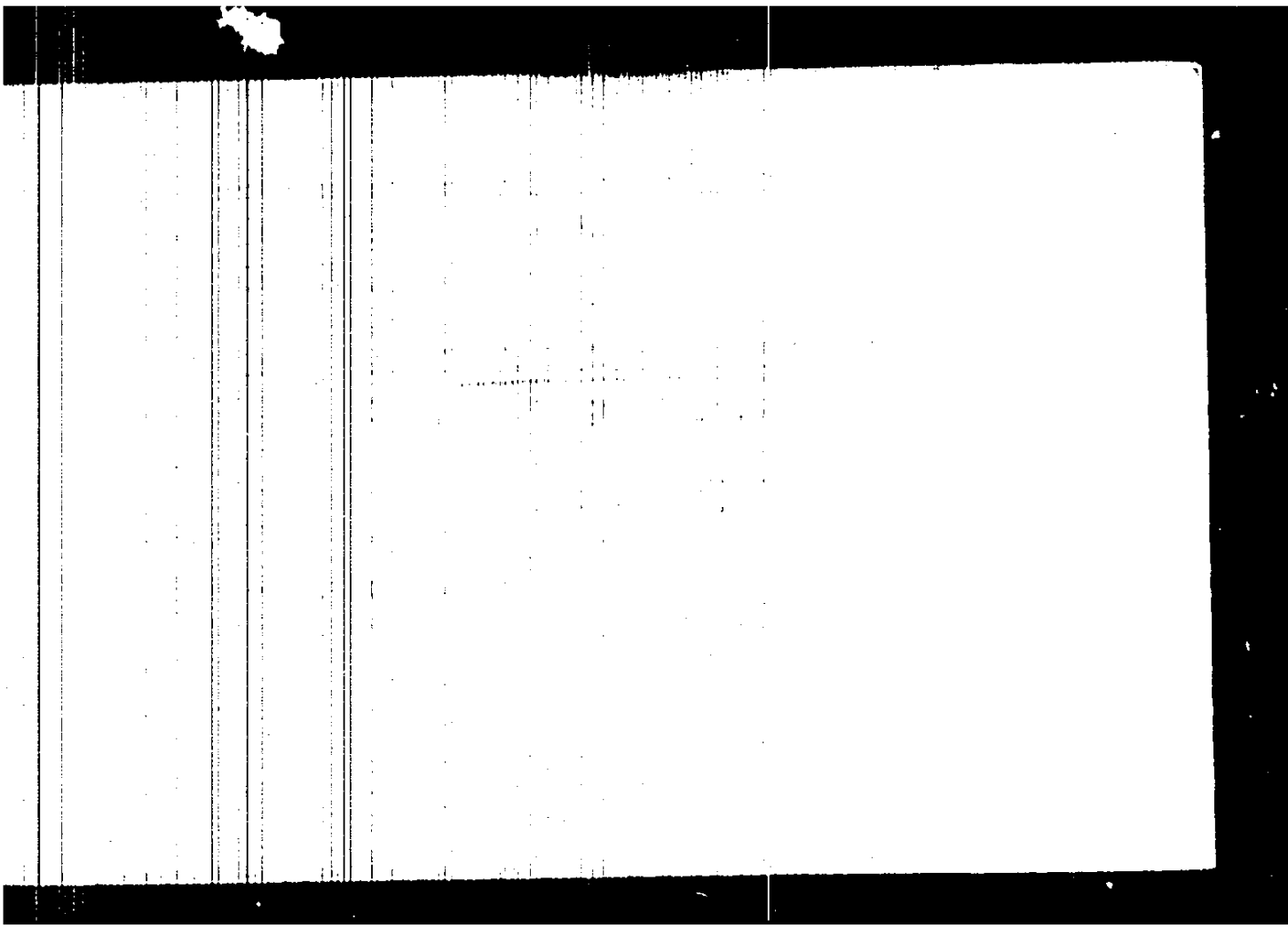
RTS S-2105

Order from OTS $2.50

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1954, v. 18, no. 5, p. 631-636.

AEC-tr-T-65-269

(Mechanics--Hydrodynamics, TT, v. 5, no. 11)



APPROVED FOR RELEASE: 2005/08/30 CIA-RDP91-00772R000301800013-2

Stability of Cylindrical and Conical Shells of Circular Cross Section, With Simultaneous Action of Axial Compression and External Normal Pressure, by Kh. M. Mushtari, A. V. Sachenkov, 15 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XVIII, No 6, 1954, pp 667-674.

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Sci - Phys

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On the Propagation of Sound Waves in a Viscous Gas With Heat Conduction, by A. A. Kaspar'yants, 9 pp.

RUSSIAN, bimo per, Prikiad Matemat i Mekh, Vol XVIII, 1954, p 729-737

Morris D. Friedman K-105
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Scientific - Physics CTS 67/Apr 55

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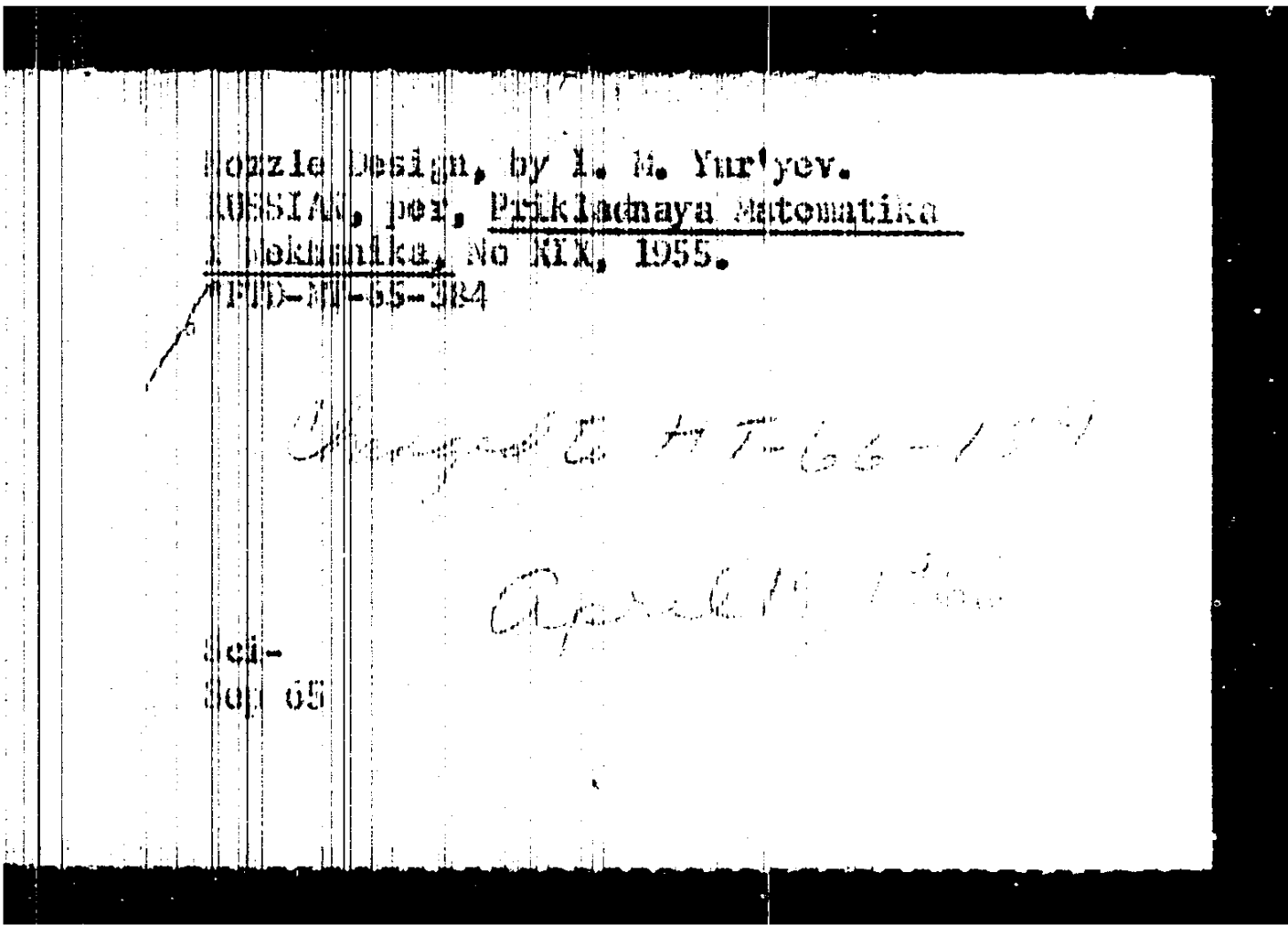
Concerning Stability of One Gyroscopic System, by I. Z. Pirogov.

RUSSIAN, per, Prikladnaya Matematika i Mekhanika, pp 1134-1136.

*ERDL Ft Belvoir T-1109

Sci - Engr

Jun 61



Nozzle Design, by L. N. Yur'yev.
USSIAS, per, Prikladnaya Matematika
i Mekhanika, No XIX, 1955.
FTD-MT-65-384

Sei-
Sep 65

On the H Equations in the Theory of Plasticity, by V. V. Sokolovskiy, 21 pp.

RUSSIAN, bimo per, Prik Matemat i Mekh, Vol XIX, 1955, pp 41-54.

Sci Mus Lib - 56/0529

Sci - Mathematics,   36,388

Jul 1956

APPROVED FOR RELEASE: 2005/08/30 CIA-RDP91-00772R000301800013-2

Voronovskaya, E. V.
ON THE MODIFICATION OF CHAPLYGIN'S METHOD FOR DIFFERENTIAL EQUATIONS OF FIRST ORDER.
14p 2refs
Order from OTS, SLA or ETC $1.60 TT-64-16022

Trans. of Prikladnaya Matematika i Mekhanika (USSR)
1955, v. 19, no. 1, p. 121-126.

(Mathematics, TT, v. 12, no. 4)

TT-64-16022

L. Voronovskaya, E. V.

Office of Technical Services

Zubov, V. I.
QUESTIONS IN THE THEORY OF LYAPUNOV'S SECOND METHOD: THE CONSTRUCTION OF THE GENERAL SOLUTION IN THE DOMAIN OF ASYMPTOTIC STABILITY. Aug 62 [47]p. 8 refs.
Order from OTS or SLA $4.60 62-20253

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1955, v. 19 [no. 2] p. 179-210.

DESCRIPTORS: *Control systems, *Stability, Motion, Equations of motion, Differential equations, Real variables, Functions, Series.

This paper is the best source for "Zubov's Method", for constructing Lyapunov functions. It answers almost all theoretical questions concerning the concept of asymptotic stability. (Author)

(Engineering--Electronic, TT, v. 9, no. 11)

62-20253

1. Title: Lyapunov method
2. Title: Zubov's method
I. Zubov, V. I.
II. Lyapunov, A. M.
III. Title: Construction ...

Office of Technical Services

On the Integration of a System of Differential Equations, by M. M. Smirnov, 6 pp.

RUSSIAN, pub, Izdkhad. Mat. i Mekhan, Vol XIX, 1955, pp 117, 118.

AEC/APEX-436

Sci - Phys
Mar 59

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Method of Determining Conditions for the Existence of Periodic Solutions for Non-Linear Systems, by S.N. Shimanov.

RUSSIAN, bimo per, Prik Mat i Mekh, Vol XIX, No 2, 1955, pp 225-228.

T.I.L. T-4715

Sci - Physics

43, 248

On a Case of Pre-Critical State of Bending of a Cylindrical Shell, by N. A. Alfutov, 5 pp.

RUSSIAN, per., Prik Matem i Mekh, Vol XIX, No 2, 1955, pp 249, 250.

Sci Tr Center
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Sci - Physics

37,16.5

Aug 1956

On the Theory of Stability of a Spherical Shell Subjected to External Pressure (With Reference to the Paper by V. I. Feodos'ev), by Kh. M. Mushtari, 10 pp.

RUSSIAN, bimo per, Prik Matemat i Mekh, Vol XIX, No 2, 1955, pp 251-254.

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Sci Tr Center RT-3642

Scientific - Engineering

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The Stability of Non-Steady Motions of Control Systems, by A. M. Letov.
RUSSIAN, per, Prikladnaya Matematika i Mekh, Vol 19, No 3, 1955, pp 257-262.
NAVY/APL/JHU-T-2568

Nov 71

Razumikhin, B. S.
ON THE STABILITY OF THE TRIVIAL SOLUTION OF SECOND ORDER SYSTEMS. Sep 62 [12]p. 6 refs.
Order from OTS or SLA. $1.60 62-20396

Trans. of Prikl. matem. i mekhanika (USSR) 1955, v. 19, no. 3 pp. 279-286.

DESCRIPTORS: *Differential equations, Equations of motion, Stability, *Numerical methods and procedures, Parabolic bodies, Geometry.

Various classes of second order systems which admit Liapunov functions of special forms are studied. The discussion is largely geometrical. (Author)

(Mathematics, TT 9, no. 7)

62-20396

1. Title: Lyapunov method
2. Title: Stability analysis
I. Razumikhin, B. S.

Office of Technical Services

Slobodyanskiy, M. G.
ON THE EVALUATIONS FOR EIGENVALUES OF A SELF-CONJUGATED OPERATOR. [1961] [37]p. 15 refs.
Order from OTS or SLA $3.60 61-10404

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1955, v. 19, no. 3, p. 295-314.

DESCRIPTORS: *Integral equations, *Functional analysis.

Lectured at the conference on the theory of elasticity, the theory of plasticity, and on theoretical questions of engineering mechanics, December 22-25, 1954, in the Institute of Mechanics of the Academy of Sciences of the USSR.

(Mathematics, TT, v. 6, no. 1)

61-10404

1. Slobodyanskiy, M. G.

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Office of Technical Services

Blokh, Ye. L.
INFLUENCE OF THE DEPTH OF A SUBMERGED SPHERE ON THE COEFFICIENT OF ADDED MASS DURING HORIZONTAL IMPACT. [1951] 9p. 3 refs.
Order from: RIS $4.50 RIS S-2109

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1955, v. 19, no. 3, p. 353-358.

AEC-SC-TT-65-270

(Mechanics--Hydrodynamics, TT, v. 5, no. 11)

61-22204

1. Spheres--Hydrodynamic characteristics
I. Blokh, Ye. L.
II. FIS S-2109
III. Research Information Service, New York

Office of Technical Services

Example of a Transonic Flow With Supersonic Zones Which in the Direction of Flow is Limited by a Compression Jump Terminating Inside the Flow, by F. I. Frankl, 13 pp. CONFIDENTIAL.

RUSSIAN, bimo per, _Prik Mat i Mekh_, Vol XIX, No 4, 1955, pp 38[illegible]-392, ~~ENCL TO IR-229-56~~, USAFE. CIA D 11309

AF 726141 34,550

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Sci - Mathematics, Physics
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Svirskiy, I. V.
ON THE QUESTION OF THE CONSTRUCTION OF VARIATIONAL CALCULATION METHODS. 1960 [26]p. 1 ref.
Order from LC or SLA m$2.70, ph$4.80 61-10402

Trans. of Prikl[adnaya] Mat[ematika i] M[ekhanika] (USSR) 1955, v. 19, no. 4, p. 453-462.

Means are suggested for determining approximate solutions by means of Rayleigh procedures. The methods are illustrated by a number of examples.

(Mathematics, TT, v. 5, no. 10)

61-10402

1. Approximate computation--Theory.
2. Title: Calculus of variations
3. Title: Rayleigh procedure
I. Svirskiy, I. V.

1357

Office of Technical Services

Kronberg, V. A.
ON THE FIRST VARIATION OF THE SOLUTION TO BOUNDARY PROBLEMS IN THE THEORY OF THE POTENTIAL FOR THE VARIATON OF THE BOUNDARY SURFACE, 12p 2refs.
Order from OTS, SLA, or ETC $1.60 TT-64-16382

Trans. of Prikladnaya Matematika i Mekhanika (USSR)
1955, v. 19, no. 4, p. 463-470.

(Mechanics--Aerodynamics, TT, v. 12, no. 4)

TT-64-16382

I. Kronberg, V. A.

Office of Technical Services

An Application of Dorodnitsyn's Variables in Boundary Layer Theory, by Yu. A. Demyanov.
UNCLASSIFIED

RUSSIAN, per, Prik Mat i Mekh, Vol XIX, 1955, pp 507, 508.

RAE Tr 721

Sci - Phys
Sep 58

72,180

Some Special Solutions of the Boundary Layer Equations for a Compressible Fluid, by A. Sh. Dorfman, E. T. Shvets, 8 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XIX, 1955, pp 509-512. CIA 9030257

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Sci - Phys

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TT-64-11307

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Krasovskiy, N. N.
ON THE STABILITY IN FIRST APPROXIMATION.
[1961] [28]p. 11 refs.
Order from LC or SLA m$2.70, ph$4.80 61-10773

Trans. of Prikladnaya Matematika i Mekhanika (USSR)
1955, v. 19, no. 5, p. 516-530.

The second method of A. M. Liapunov is employed in studying the stability of solutions of perturbation equations.

151852

(Mathematics, TT, v. 5, no. 9)

61-10773

1. Differential equations--Theory
2. Perturbation theory
I. Krasovskiy, N. N.

Office of Technical Services

Loitsyanskii, L. G.
HYDRODYNAMIC THEORY OF A SPHERICAL BEARING (Gidrodinamicheskaya Teoriya Sfericheskogo Podshipnika). [1961] 123 p. (foreign text included)
1 ref. [DSIR LUU] M. 2606.
Order from OTS or SLA $2.60 61-23272

Trans. of Prik[ladnaya] Mat[ematika i] Mekh[anika] (USSR) 1955, v. 19 [no. 5] p. 531-540.

DESCRIPTORS: *Bearings, Spheres, Lubrication, *Hydrodynamics.

An approximate solution is presented of the problem of determination of pressure, force and moment acting on a spherical body which performs a general movement in a spherical space, filled with a viscous fluid. The velocity of translatory motion of the body and angular velocity of its rotation are assumed to be known and constant, and the motion is considered to be quasi-steady. The investigation is limited to the analysis of the par- (over)
(Machinery--Machine Parts, TT, v. 6, no. 4)

61-23272

1. Loitsyanskii, L. G.
II. DSIR LUU M. 2606

XRI Qualitative Methods in the Theory of Stability, by N. P. Erugin, 32 pp.

RUSSIAN, per, Prikladnaya Matematika i Mekhanika, Vol XIX, No 5, 1955, pp 599-610.

OTS XR 62-20394

230,617

Sci
May 63

Barbashin, Ye. A. and Skalkina, M. A.
ON THE QUESTION OF STABILITY IN FIRST APPROXIMATION. 30 Dec 60 [5]p. 2 refs.
Order from OTS or SLA $1.10 61-14763

Trans. of Prikladnaya Matematika i Mekhanika (USSR)
1955, v. 19, no. 5, p. 623-624.

DESCRIPTORS: Numerical analysis, *Differential equations, Perturbation theory, Theory.

The author examines in a qualitative sense and presents a theorem relating solutions of the homogeneous first order variational equations to solutions of the non-homogeneous equations given on exponentially bounded stable solution of the homogeneous equations and certain assumptions on the nature of the non-homogeneous equations. (Translator)

(Mathematics, TT, v. 6, no. 1)

61-14763

I. Barbashin, Ye. A.
II. Skalkina, M. A.

161798

Office of Technical Services

Theorem of the Uniqueness of the Solution of the Example of Circumflow of a Wedge-shaped Profile Within the Transsonic Region, by A. F. Kryuchin, 4 pp. CONFIDENTIAL

RUSSIAN, mimeo per, Prik Mat i Mekh, Vol XIX, No 5, 1955, pp 635-640, Encl. to IR-228-56, USAFE. CIA D 4U3167

AF 726102

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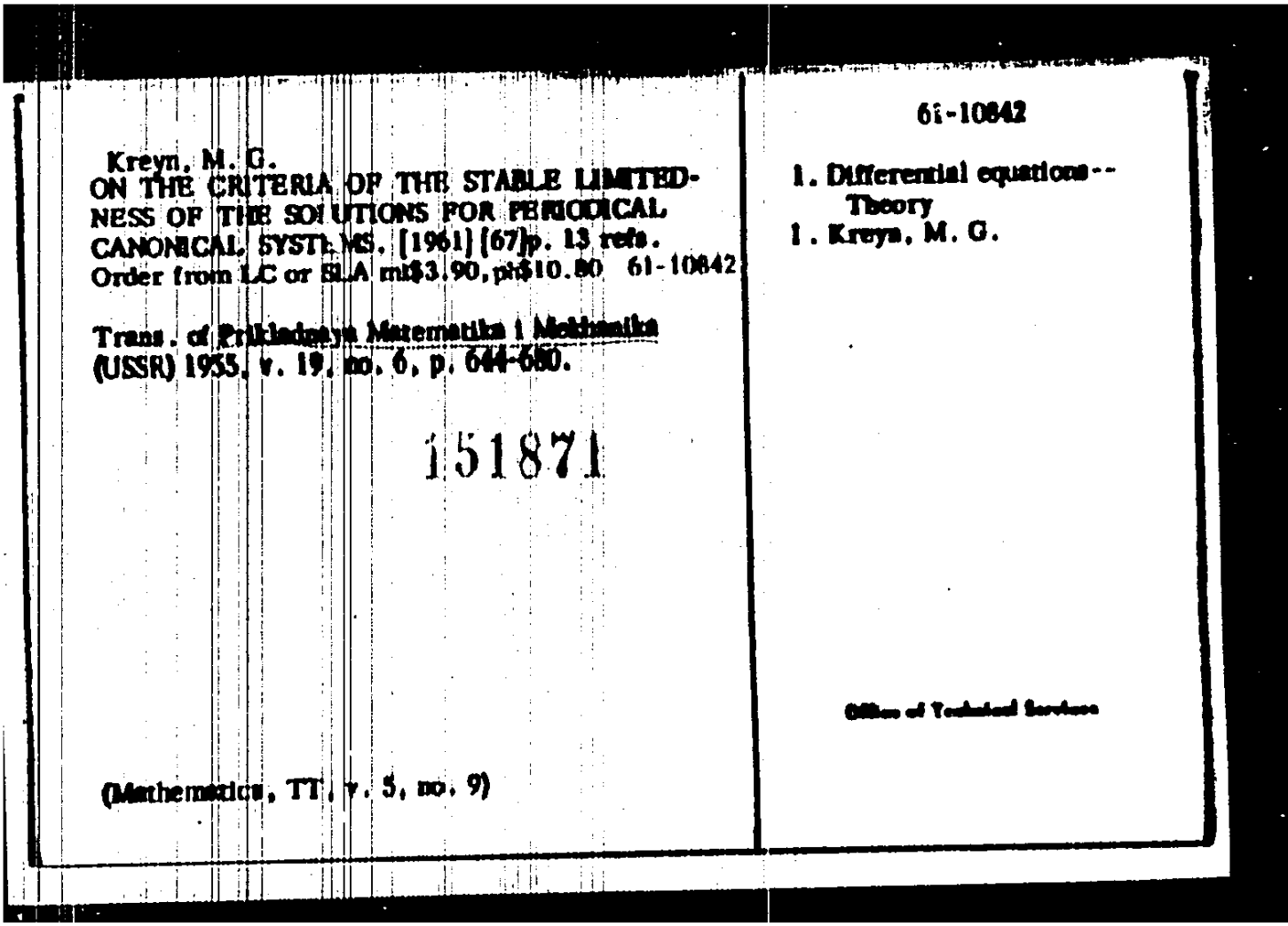
USSR
Sci - Mathematics, Physics
May 1956 CFB/dar



Kreyn, M. G.
ON THE CRITERIA OF THE STABLE LIMITEDNESS OF THE SOLUTIONS FOR PERIODICAL CANONICAL SYSTEMS. [1961] [67]p. 13 refs.
Order from LC or SLA mi$3.90, ph$10.80 61-10842

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1955, v. 19, no. 6, p. 644-650.

151871

(Mathematics, TT, v. 5, no. 9)

61-10842

1. Differential equations--Theory
I. Kreyn, M. G.

Office of Technical Services

Asymptotic Solutions for the Equations of Uniform Non-Equilibrium Motion of an Ideal Gas and the Asymptotic Decay of Shock Waves, by Ya. L. Yakimov.

RUSSIAN, per, Prik Mat i Mekh, Vol XIX, 1955, pp 681-692.

CCT-876B
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Sci-Phys

Dec 59

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The Conditions for the Appearance of Convection
in a Binary Mixture, by B. A. Vertgein, 9 pp.
RUSSIAN, per, Prikladnaya Matematika i
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F911248267
AEC IS Tr-59

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Sci - Materials
Aug 67

APPROVED FOR RELEASE: 2005/08/30 CIA-RDP91-00772R000301800013-2

Calculation of the Flow Over a Rotating Circular Lattice, by L. A. Dorfman, 7 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XII, 1956, pp 121-126. 62L0853

A.C.S.I.L. Tr 1330

Scl - Math & Data Process
Sep 63

344,183